

Attachment A

NRC NEPA Issues for License Renewal of Nuclear Power Plants

Southern Nuclear Operating Company (SNC) has prepared this environmental report in accordance with the requirements of U.S. Nuclear Regulatory Commission (NRC) regulation 10 CFR 51.53. NRC included in the regulation a list of National Environmental Policy Act issues for license renewal of nuclear power plants. Table A-1 lists these 92 issues and identifies the section in which SNC addressed each issue in the environmental report. For expediency, SNC has assigned a number to each issue and uses the issue numbers throughout the environmental report.

Table A-1. Joseph M. Farley Nuclear Plant Environmental Report Discussion of License Renewal NEPA Issues^a.

Issue	Category	Section of this Environmental Report
1. Impacts of refurbishment on surface water quality	1	4.0
2. Impacts of refurbishment on surface water use	1	4.0
3. Altered current patterns at intake and discharge structures	1	4.0
4. Altered salinity gradients	1	4.0
5. Altered thermal stratification of lakes	1	4.0
6. Temperature effects on sediment transport capacity	1	4.0
7. Scouring caused by discharged cooling water	1	4.0
8. Eutrophication	1	4.0
9. Discharge of chlorine or other biocides	1	4.0
10. Discharge of sanitary wastes and minor chemical spills	1	4.0
11. Discharge of other metals in waste water	1	4.0
12. Water use conflicts (plants with once-through cooling systems)	1	4.0
13. Water use conflicts (plants with cooling ponds or cooling towers using make-up water from a small river with low flow)	2	4.1
14. Refurbishment impacts to aquatic resources	1	4.0
15. Accumulation of contaminants in sediments or biota	1	4.0
16. Entrainment of phytoplankton and zooplankton	1	4.0
17. Cold shock	1	4.0
18. Thermal plume barrier to migrating fish	1	4.0
19. Distribution of aquatic organisms	1	4.0
20. Premature emergence of aquatic insects	1	4.0
21. Gas supersaturation (gas bubble disease)	1	4.0
22. Low dissolved oxygen in the discharge	1	4.0
23. Losses from predation, parasitism, and disease among organisms exposed to sublethal stresses	1	4.0
24. Stimulation of nuisance organisms (e.g., shipworms)	1	4.0
25. Entrainment of fish and shellfish in early life stages for plants with once-through and cooling pond heat dissipation systems	2	4.2
26. Impingement of fish and shellfish for plants with once-through and cooling pond heat dissipation systems	2	4.3
27. Heat shock for plants with once-through and cooling pond heat dissipation systems	2	4.4
28. Entrainment of fish and shellfish in early life stages for plants with cooling-tower-based heat dissipation systems	1	4.0
29. Impingement of fish and shellfish for plants with cooling-tower-based heat dissipation systems	1	4.0
30. Heat shock for plants with cooling-tower-based heat dissipation systems	1	4.0
31. Impacts of refurbishment on groundwater use and quality	1	4.0

Table A-1. Joseph M. Farley Nuclear Plant Environmental Report Discussion of License Renewal NEPA Issues^a. (Cont'd)

	Issue	Category	Section of this Environmental Report
32.	Groundwater use conflicts (potable and service water; plants that use < 100 gpm)	1	4.0
33.	Groundwater use conflicts (potable, service water, and dewatering; plants that use > 100 gpm)	2	4.5
34.	Groundwater use conflicts (plants using cooling towers withdrawing make-up water from a small river)	2	4.6
35.	Groundwater use conflicts (Ranney wells)	2	4.7
36.	Groundwater quality degradation (Ranney wells)	1	4.0
37.	Groundwater quality degradation (saltwater intrusion)	1	4.0
38.	Groundwater quality degradation (cooling ponds in salt marshes)	1	4.0
39.	Groundwater quality degradation (cooling ponds at inland sites)	2	4.8
40.	Refurbishment impacts to terrestrial resources	2	4.9
41.	Cooling tower impacts on crops and ornamental vegetation	1	4.0
42.	Cooling tower impacts on native plants	1	4.0
43.	Bird collisions with cooling towers	1	4.0
44.	Cooling pond impacts on terrestrial resources	1	4.0
45.	Power line right-of-way management (cutting and herbicide application)	1	4.0
46.	Bird collisions with power lines	1	4.0
47.	Impacts of electromagnetic fields on flora and fauna (plants, agricultural crops, honeybees, wildlife, livestock)	1	4.0
48.	Floodplains and wetlands on power line right-of-way	1	4.0
49.	Threatened or endangered species	2	4.10
50.	Air quality during refurbishment (non-attainment and maintenance areas)	2	4.11
51.	Air quality effects of transmission lines	1	4.0
52.	Onsite land use	1	4.0
53.	Power line right-of-way land use impacts	1	4.0
54.	Radiation exposures to the public during refurbishment	1	4.0
55.	Occupational radiation exposures during refurbishment	1	4.0
56.	Microbiological organisms (occupational health)	1	4.0
57.	Microbiological organisms (public health) (plants using lakes or canals, or cooling towers or cooling ponds that discharge to a small river)	2	4.12
58.	Noise	1	4.0
59.	Electromagnetic fields, acute effects (electric shock)	2	4.13
60.	Electromagnetic fields, chronic effects	NA ^b	4.0
61.	Radiation exposures to public (license renewal term)	1	4.0
62.	Occupational radiation exposures (license renewal term)	1	4.0

Table A-1. Joseph M. Farley Nuclear Plant Environmental Report Discussion of License Renewal NEPA Issues^a. (Cont'd)

	Issue	Category	Section of this Environmental Report
63.	Housing impacts	2	4.14
64.	Public services: public safety, social services, and tourism and recreation	1	4.0
65.	Public services: public utilities	2	4.15
66.	Public services: education (refurbishment)	2	4.16
67.	Public services: education (license renewal term)	1	4.0
68.	Offsite land use (refurbishment)	2	4.17.1
69.	Offsite land use (license renewal term)	2	4.17.2
70.	Public services: transportation	2	4.18
71.	Historic and archaeological resources	2	4.19
72.	Aesthetic impacts (refurbishment)	1	4.0
73.	Aesthetic impacts (license renewal term)	1	4.0
74.	Aesthetic impacts of transmission lines (license renewal term)	1	4.0
75.	Design basis accidents	1	4.0
76.	Severe accidents	2	4.20
77.	Offsite radiological impacts (individual effects from other than the disposal of spent fuel and high-level waste)	1	4.0
78.	Offsite radiological impacts (collective effects)	1	4.0
79.	Offsite radiological impacts (spent fuel and high-level waste disposal)	1	4.0
80.	Nonradiological impacts of the uranium fuel cycle	1	4.0
81.	Low-level waste storage and disposal	1	4.0
82.	Mixed waste storage and disposal	1	4.0
83.	Onsite spent fuel	1	4.0
84.	Nonradiological waste	1	4.0
85.	Transportation	1	4.0
86.	Radiation doses (decommissioning)	1	4.0
87.	Waste management (decommissioning)	1	4.0
88.	Air quality (decommissioning)	1	4.0
89.	Water quality (decommissioning)	1	4.0
90.	Ecological resources (decommissioning)	1	4.0
91.	Socioeconomic impacts (decommissioning)	1	4.0
92.	Environmental justice	NA ^b	4.21

a. Source: 10 CFR 51, Subpart A, Appendix A, Table B-1. (Issue numbers added to facilitate discussion.)

b. Not applicable. Regulation does not categorize this issue.

NEPA = National Environmental Policy Act.

Attachment B

NPDES Permit

The National Pollutant Discharge Elimination System permit for the Joseph M. Farley Nuclear Plant is approximately 33 pages long. Only the cover page, providing the authority to discharge, is included here. No other pages are pertinent to any Category 2 issues.

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ADEM



ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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JAMES W. WARR
DIRECTOR

DON SIEGELMAN
GOVERNOR

February 9, 2001

W C CARR
MANAGER ENVIRONMENTAL SERVICES
FARLEY NUCLEAR PLANT
P O BOX 1295
BIRMINGHAM AL 35201

FEB 2001

Facsimiles: (334)
Administration: 271-7950
General Counsel: 394-4332
Air: 279-3044
Land: 279-3050
Water: 279-3051
Groundwater: 270-5631
Field Operations: 272-8131
Laboratory: 277-6718
Mining: 394-4326
Education/Outreach: 394-4383

RE: Final NPDES Permit
NPDES Permit Number AL0024619

Dear Mr. Carr:

Attached is the issued copy of the above referenced permit.

Your comments relating to temperature limitations were considered and the Department has determined that the proposed limitations should be included in the permit due to the potential for thermal pollution from this type of operation

We will look forward to receiving monitoring data in accordance with the conditions of your Permit. Please see PART I.C., Page 3 for your reporting requirements. In order to minimize the paperwork burden on both of us, we ask that when submitting the required Discharge Monitoring Reports (DMR's), please **do not submit** lab worksheets, logs, reports or other paperwork, not specifically required by the permit unless requested to do so by ADEM staff.

If there are questions or comments in reference to the permit or related monitoring requirements, please contact Jim Phillips of this office (334) 271-7828.

Sincerely,

Edgar K. Hughes, Chief
Industrial Section
Water Division

/ar

Enclosure: Final Permit

cc: EPA Region IV: Final Permit

Mike McCary, P & S: Final Permit

John Chitwood,
Montgomery Field Office: Final Permit

Birmingham Branch
110 Vulcan Road
Birmingham, Alabama 35209-4702
(205) 942-6168
(205) 941-1603 [Fax]

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, Alabama 35603-1333
(256) 353-1713
(256) 340-9359 [Fax]

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2204 Perimeter Road
Mobile, Alabama 36615-1131
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(334) 479-2593 [Fax]

Mobile - Coastal
4171 Commanders Drive
Mobile, Alabama 36615-1421
(334) 432-6533
(334) 432-6598 [Fax]



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ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: FARLEY NUCLEAR PLANT
(FORMERLY SOUTHERN NUCLEAR OPERATING CO)

FACILITY LOCATION: HOUSTON COUNTY HIGHWAY 95 SOUTH
COLUMBIA, ALABAMA

PERMIT NUMBER: AL0024619

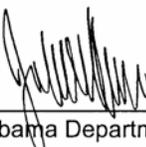
RECEIVING WATERS: CHATTAHOOCHEE RIVER
UNNAMED TRIBUTARY TO CHATTAHOOCHEE RIVER
WILSON CREEK

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1378 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.

ISSUANCE DATE: FEBRUARY 9, 2001

EFFECTIVE DATE: MARCH 1, 2001

EXPIRATION DATE: FEBRUARY 28, 2006


Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
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